

**PATENT****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 09/992,310  
Filing Date: November 19, 2001  
Applicant: Laurence I. Rockwell  
Group Art Unit: 2686  
Examiner: Randy Peaches  
Title: AIRBORNE SECURITY MANAGER  
Attorney Docket: 7784-000188

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Director of the United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 C.F.R. § 1.131**

Sir:

I hereby declare under penalty of perjury as follows:

1. That I am the sole inventor of the above-identified application.
2. That the invention was conceived and/or at least partially reduced to practice in this country prior to September 6, 2000, the filing date of the United States Pub. No. 2002/0082886A1 to Manganaris et al.

3. I am the author of the attached presentation whose cover page is attached at Exhibit A. Presentation slides from this presentation are attached as Exhibits B and C and the information contained within Exhibits B and C was prepared by myself.

4. That the invention was conceived and/or reduced to practice prior to September 6, 2000, as evidenced by the presentation slides attached as Exhibits B and C. Exhibits B and C illustrate at least the initial conception and reduction to practice of the invention embodied by at least claim 1.

5. That the invention has never been abandoned, suppressed, or concealed.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are being made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, and patent issuing thereon, or any patent to which this verified statement is directed.

Dated: 19 October 2004

Laurence I. Rockwell  
Laurence I. Rockwell

# Network System Security Architecture

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**Laurence Rockwell**

**Items covered in this section:**

**Network Security - The problem  
Security Policy  
Key Requirements  
Design Description  
Design Activities / Summary**

**Focus: Network and Host Based Security, including  
operational aspects**

**Not addressed: Environmental Controls (Power  
Conditioning, UPS, Cooling, Fire detection and  
suppression), Physical Access Control, Personnel  
Background, . . .**

# Connexion by Boeing Security Policy

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- ♦ Provide (Business) Travelers with onboard (and on ground) network environment as “safe” as when connecting to their ISP from home
- ♦ Protect the Connexion Network from:
  - Hackers on the Internet (Connexion will be a high prestige target!)
  - Hackers on the aircraft
  - Hackers on the airwaves
  - Internal unauthorized personnel access
  - Content substitution - e.g. Cyber Graffiti
  - Content Pirating
- ♦ Find the appropriate, cost effective balance between functionality and security

# Network Security Architectural Principles

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## Prevention:

- Plug vulnerabilities by hardening hosts
- Use strong passwords / eliminate default passwords
- Implement security enclaves- use firewall technology to deny access to unauthorized personnel
- Use encryption on air links to deny access
- Periodically scan hosts for vulnerabilities
- Implement principle of Least Privilege

## Detection: Detect attacks on computing resources

- Host Based • Network Based

**Respond:** Close connections or disable interfaces in response to attacks on computing resources

**Recovery:** • Minimize downtime through use of controlled media for all software functionality

- Plan and rehearse for contingencies